OHIO UNIVERSITY

School of Electrical Engineering & Computer Science

ACAST 5 GHz Wireless Channel Characterization for Airport Surface/Terminal Areas

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Motivation for Characterization

- Enables determination of required link parameters
  - Transmit powers⇒ranges
  - Antenna characteristics (gains, beamwidths)
  - Siting guidelines

- Enables determination of channel impulse response characteristics (delay & Doppler spreads, statistics, etc.). Essential for PHY/MAC design, in terms of, e.g.,
  - Signal bandwidths & data rates
  - Modulation(s), forward error correction coding schemes
  - Adaptation algorithms for allocating resources in the time, frequency, and spatial domains
  - Duplexing and multiplexing methods

Plan for Channel Characterization

- Combination of analysis, simulation/modeling, and measurements